ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

VISUAL SITE INSPECTION REPORT – 2017

HOOSIER ENERGY REC
MEROM GENERATING STATION
AREA 3 RESTRICTED WASTE LANDFILL
MEROM, INDIANA

ATC PROJECT NO. 170LF00459

FEBRUARY 7, 2018

PREPARED FOR:

HOOSIER ENERGY REC
MEROM GENERATING STATION
5500 WEST OLD HIGHWAY 54
SULLIVAN, IN 47882
ATTENTION: MR. LON M. PETTS

February 7, 2018

ATC Group Services LLC

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Mr. Lon M. Petts
Hoosier Energy REC
Merom Generating Station
5500 West Old Highway 54
Sullivan, IN 47882

Re: Visual Site Inspection Report - 2017
Merom Generating Station
Area 3 Type I Restricted Waste Landfill
Merom, Indiana
ATC Project No. 170LF00459

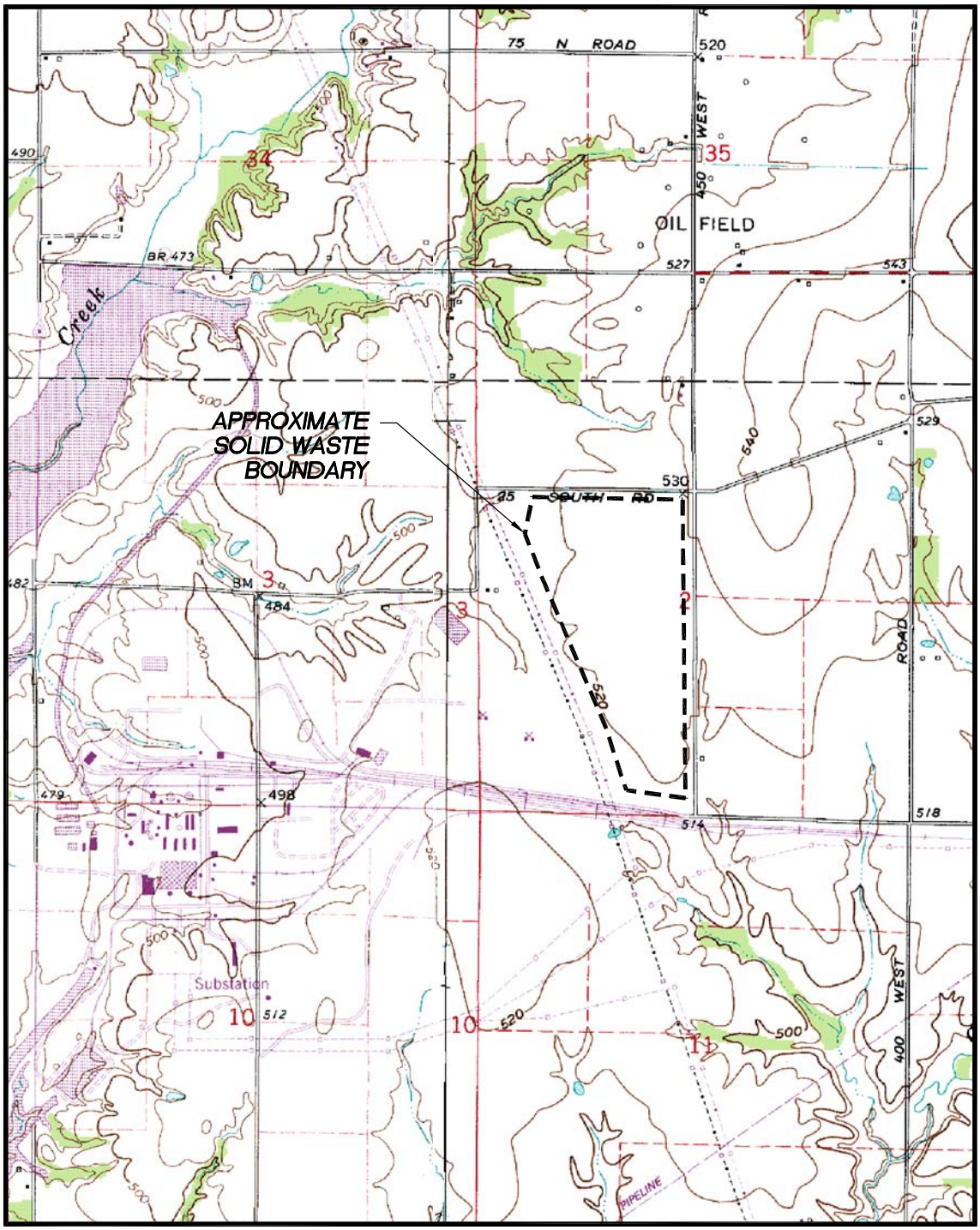
Dear Mr. Petts:

Submitted herewith is the report of our 2017 Visual Site Inspection of the Area 3 Type I Restricted Waste Landfill at the Merom Generating Station. This visual inspection and report were done in accordance with guidelines established by the Coal Combustion Residuals (CCR) Rule published by the Environmental Protection Agency on April 17, 2015.

The scope of this inspection was limited to an examination of readily observable surficial features of the landfill and its appurtenant structures, and a review of available site information. Please note that the inspection did not include any test drilling, testing of materials, precise physical measurements of landfill features, detailed calculations to verify slope stability or other engineering analyses. Although the inspection was conducted by competent personnel in accordance with generally accepted methods for inspecting landfills, it should not be considered as a warranty or guaranty of the future performance/safety of the landfill.

The Merom Area 3 Landfill is located in Sullivan County, Indiana in Section 2 of Gill Township and within Township-7-North/Range-10-West. The landfill is located about 1.1 mile east of Turtle Creek and about 4.2 miles east of the Wabash River as shown on Figure 1.

The landfill inspection was completed on December 14, 2017 by David Stelzer and Charles Dewes of ATC Group Services LLC (ATC). The weather conditions during the inspection was approximately 34º F and cloudy. Documentation of inspection items can be found below and on the corresponding annotated Site Plan contained in Appendix A.



VICINITY MAP

VICINITY MAP
AREA 3 RESTRICTED WASTE LANDFILL
MEROM GENERATING STATION

Project Number: 170LF00301		Drn. By: WS
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Date: 10/16	Scale: 1" = 2000'	App'd By: DB
ATC		Figure: 1

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Coal Combustion Residuals Rule Landfill Requirements/Observations

This visual inspection was performed to address the standards and guidelines required by the CCR Rule instituted by the Environmental Protection Agency on April 17, 2015. As a result, CCR Landfills are now required to meet the requirements of 40 C.F.R. §257 to conduct annual inspections of the landfill in accordance with 40 C.F.R. §257.84(b). Listed below are requirements specified within the CCR Rule and the observations made by David Stelzer and Charles Dewes during the third annual inspection:

40 C.F.R. §257.84

(b) Annual inspections by a qualified professional engineer.

(1) Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:

(i) A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections); and

The third annual inspection of the Merom Area 3 Landfill was conducted by the undersigned professional engineer on December 14, 2017. Prior to the inspection, design plans were reviewed by the undersigned.

(ii) A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

The inspection conducted on December 14, 2017 did not reveal any immediate signs of failure for the landfill. However, there are areas that require ongoing maintenance.

(2) Inspection report. The qualified professional engineer must prepare a report following each inspection that addresses the following:

(i) Any changes in geometry of the structure since the previous annual inspection;

This is the third annual inspection of the Area 3 Type I Restricted Waste Landfill at the Merom Generating Station. At this time, only the northernmost cell, Cell 1, is fully constructed and actively receiving CCR waste.

However, in 2017, a phase separation berm was created between Cell 1 and Cell 2. Construction work to establish the underdrain and baseliner system of Cell 2 is now in progress and is expected to be completed in 2018.

(ii) The approximate volume of CCR at the time of the inspection;

The approximate volume of CCR in the landfill is about 1,400,000 cubic yards.

(iii) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and

There were no signs of structural weakness noted within the permitted solid waste boundary at the time of this visual inspection.

(iv) Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

None noted at the time of this inspection.

Coal Combustion Residuals Landfill Observations/Recommendations

This section of report provides additional details regarding the landfill inspection completed on December 14, 2017. The observation locations and the landfill system features are highlighted on Sheet 1 in Appendix A.

The landfill system was divided into the following components to help organize the inspection and the reporting:

- West side of Cell 1,
- South side of Cell 1,
- East side of Cell 1,
- North side of Cell 1,
- Cell 1 top area, and
- Area 3 Sedimentation Pond.

The following paragraphs include a summary of the observations made during the inspection followed by our recommendations in bold print. Note that no final cover has been placed on Cell 1, no partial closure has taken place, and a soil cover has been placed on outside slopes around Cell 1.

West Side of Cell 1 – Observations /Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Location 1 encountered the sediment trap basin. The basin appears to be functioning properly to catch runoff from haul roads. A gravel filter dike has been constructed around the inlet to prevent sediment clogging.
Recommendation: Continue a regular maintenance program to clean out and remove sediment from the trap basin so that it does not become full.

2) Location 2 encountered the perimeter concrete lined ditch. Approximately one (1) inch of CCR material has accumulated inside the lined ditch from the adjacent haul road.
Recommendation: Continue to clean out the ditch as needed to prevent blockages and maintain capacity.

3) Locations 2 and 3 encountered the perimeter soil berm which is well vegetated.
Recommendation: None at this time.

4) Location 3 encountered the interior drainage swale at the toe of slope. CCR material is well compacted and sloped to drain.
Recommendation: None at this time.

5) Locations 4 and 5 encountered the southwest corner surface water culvert which collects water from the west and south interior drainage swales of Cell 1.
Recommendation: Continue to monitor the culvert entrance to prevent CCR material from escaping the Solid Waste Boundary.

South Side of Cell 1 – Observations /Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Location 6 encountered the soil phase separation berm which separates Cell 1 from (future development) Cell 2. The berm has adequate freeboard.
Recommendation: None at this time.

2) Location 7 encountered the south drainage swale. The swale is well compacted and sloped to drain.
Recommendation: None at this time.

3) Locations 6, 7, 8 and 9 encountered the south side slope. The slope is well compacted and transitions to vegetated cover at the southeast corner.
Recommendation: None at this time.

East Side of Cell 1 – Observations /Recommendations

The east slope was recently reseeded in 2017 and cover condition improved to reduce rill erosion. Items noted during the visual inspection of this area are described in the following list.

1) Locations 11 and 12 encountered side slopes that are well graded with intermediate soil cover and good vegetation along the face.
Recommendation: None at this time.

North Side of Cell 1 – Observations /Recommendations

Previous erosion features in the perimeter ditch along the northwest corner of the landfill, noted during the 2016 inspection, have been repaired in 2017. Additional riprap has been added near culvert inverts at the stream crossing. Items noted during the visual inspection of this area are described in the following list.

1) Locations 13 and 14 encountered well vegetated soil slopes.
Recommendation: None at this time.

Top Cell 1 – Observations /Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Location 17 encountered a haul road to the top of the landfill along the south side. The haul road is well compacted and stockpiles have been flattened to prevent wind erosion.
Recommendation: None at this time.

2) Location 18 encountered areas of gully erosion in the Pozotec material at the northwest corner of the landfill.
Recommendation: Regrade and compact CCR as needed to diminish erosion and continue to maintain perimeter soil berms to contain CCR inside the Solid Waste Boundary.

Area 3 Sedimentation Basin - Observations/Recommendations

Items noted during the visual inspection of this area are described in the following list.

1) Location 19 encountered the riprap channel leading to the sedimentation basin. The riprap is in good shape.
Recommendation: None at this time.

2) Location 20 encountered the west sedimentation basin and riprap bank slopes.
Recommendation: None at this time.

3) Location 21 encountered the south entrance of the sediment pond.
Recommendation: None at this time.

4) Location 22 encountered the south concrete lined ditch entrance to the sedimentation basin. Small debris accumulation in the channel.
Recommendation: Continue to clean out the ditch as needed to prevent blockages and maintain capacity.

We appreciate the opportunity to assist you with this project. If you have any questions concerning information contained in this report, please do not hesitate to call either of the undersigned at 317.849.4990.

Sincerely,
ATC Group Services LLC

Charles P. Dewes, P.E., CFM, CESSWI
Project Engineer

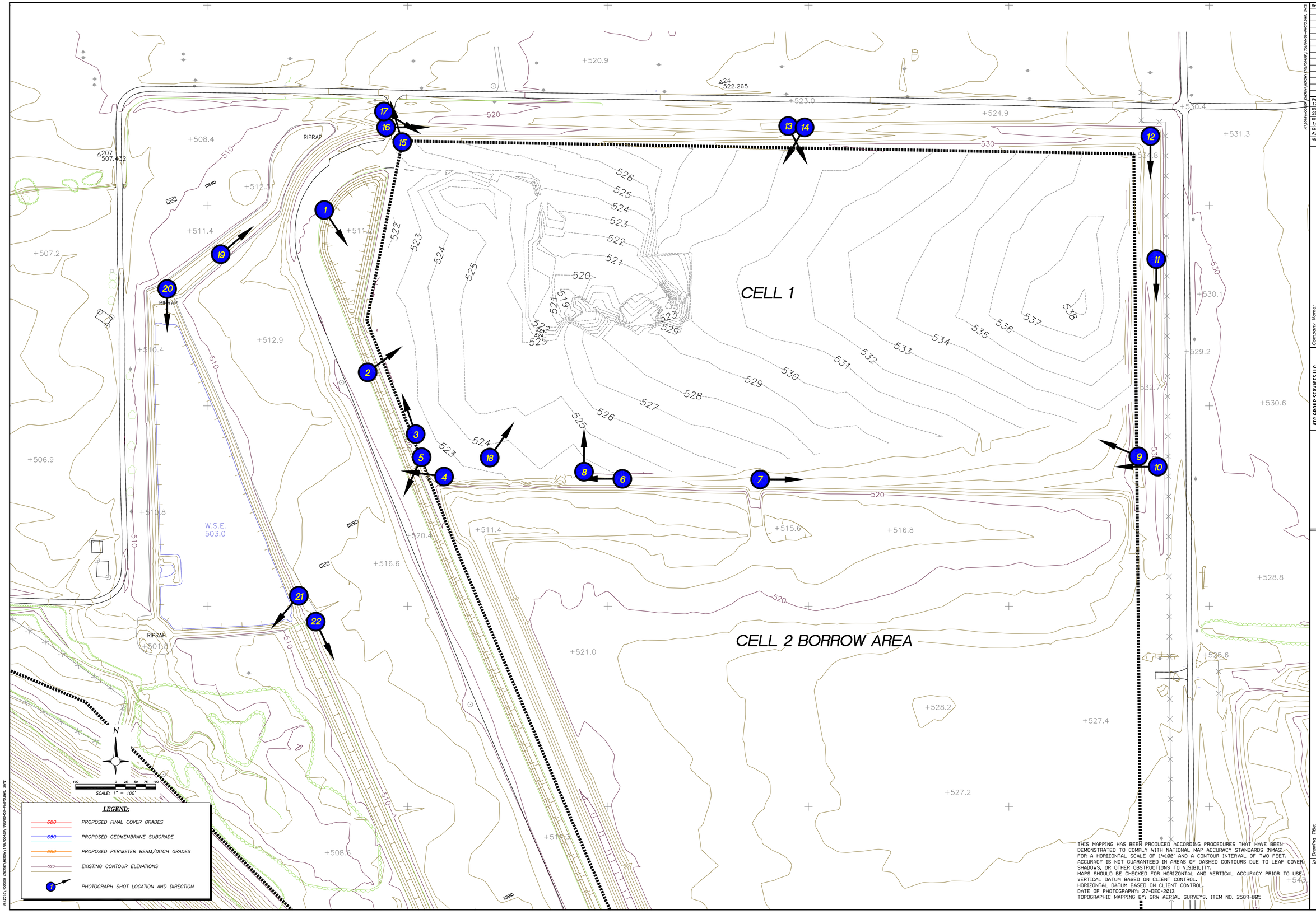
David L. Stelzer, Ph.D., P.E.
Senior Project Engineer

Copies: (3) Lon Petts – Hoosier Energy

Appendices

Appendix A: Site Plan

Appendix A: Site Plan



THIS MAPPING HAS BEEN PRODUCED ACCORDING PROCEDURES THAT HAVE BEEN DEMONSTRATED TO COMPLY WITH NATIONAL MAP ACCURACY STANDARDS (NMAS) FOR A HORIZONTAL SCALE OF 1"=100' AND A CONTOUR INTERVAL OF TWO FEET. ACCURACY IS NOT GUARANTEED IN AREAS OF DASHED CONTOURS DUE TO LEAF COVER, SHADOWS, OR OTHER OBSTRUCTIONS TO VISIBILITY.
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VERTICAL DATUM BASED ON CLIENT CONTROL.
HORIZONTAL DATUM BASED ON CLIENT CONTROL.
DATE OF PHOTOGRAPHY: 27-DEC-2013
TOPOGRAPHIC MAPPING BY: GRW AERIAL SURVEYS, ITEM NO. 2589-025

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Revision:

Project Number: 170JF00459
Drawing File: SEE LOWER LEFT
Date: 1/18
Scale: AS SHOWN

App'd By:	Chk'd By:	Drn. By:
	CD	AK

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Drawing Title:
2017 LANDFILL INSPECTION
AREA 3 CELL 1
MEROM GENERATING STATION

Sheet:
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